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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/163,844	09/30/1998	CHRISTOPHER A. HOFMEISTER	390-008105-U	5953

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PERMAN & GREEN  
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FAIRFIELD, CT 06430

EXAMINER

UNDERWOOD, DONALD W

ART UNIT	PAPER NUMBER
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3652

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Please find below and/or attached an Office communication concerning this application or proceeding.



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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 18

Application Number: 09/163,844  
Filing Date: September 30, 1998  
Appellant(s): HOFMEISTER, CHRISTOPHER A.

For Appellant

EXAMINER'S ANSWER

MAILED

DEC 09 2002

GROUP 3600

This is in response to the appeal brief filed 08/14/02.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

This appeal involves claims 1-5, 8-16, 26 and 28-29.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

Issues 2 and 4 set forth on pages 2 and 3 of the Brief filed 12/17/01, i.e., paper no. 15 are moot. Claims 1-4, 26, 28 and 29 are not rejected under Fukasawa et al alone and the rejection utilizing Fukasawa et al in view of Sawada is overcome by appellants' arguments. Issues 1, 3, 5 and 6 are before the Board.

**(7) *Grouping of Claims***

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Appellant's brief includes a statement that claims 1-4, 5, 8-16, 26, 28 and 29 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,741,113	Bacchi et al	04-1998
5,611,655	Fukasawa et al	03-1997
4,781,512	Ohata et al	11-1988

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 5 stands rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fukasawa et al.

Figures 1 and 2 in Fukasawa illustrate process chambers 4a, 4b, 4c, cassettes 3a, 3b and arm 5 such that its pivot shoulder is located between chambers 4a and 4b and also between chambers 4b and 4c and between chambers 3a and 3b. This arm

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moves wafers between the cassettes and the process chambers. The only feature not shown is the exact transfer path of the wafer into and out of each of 4a, 4b, 4c, 3a and 3b. Due to the parallel sides walls of each of 4a, 4b, 4c, 3a and 3b, it is inherent that the wafers are moved straight into and out of each of 4a, 4b, 3a and 3b to avoid contact with the parallel sides of 4a, 4b, 4c, 3a and 3b.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*28 -*  
Claims 1-4, ~~26~~ and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukasawa et al in view of Bacchi et al.

It would have been an obvious substitution of equivalents to substitute an arm utilizing two drives as taught by Bacchi for the arm in Fukasawa.

Claims 8-16 and ~~28~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacchi et al in view of Ohata et al.

Bacchi discloses the claimed arm.

Ohata discloses arranging cassettes side by side in an arc.

It would have been obvious to provide a plurality of side by side stations as claimed in Bacchi in view of the teaching Ohata.

Claims 8-16 and ~~28~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al in view of Bacchi et al.

Ohata discloses arranging cassettes side by side in an arc.

*1-4, 26, 29*

*5, 8, 10, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100*

*Revised 03/26/03  
see pages # 20 & 16*

*Revised 3/26/03  
see pages # 20 & 16*

*Revised 3/26/03  
see pages # 20 & 16*

Bacchi disclosed the claimed arm.

It would have been an obvious substitution of equivalents to substitute an arm as claimed for the transfer in Ohata in view of the arm in Bacchi.

**(11) Response to Argument**

The first issue is the rejection of claim 5 under 35 USC 102 over Fukasawa. Appellant's position is that Fukasawa does not teach a straight line movement of the wafer into and out of 4a, 4b, 4c, 3a and 3b nor is it inherent as set forth by the examiner. Appellant goes on to state that the wafer may be moved along a curvilinear path and it is not clearly necessary that the wafer be translated along a rectilinear path. The examiner agrees with appellant that Fukasawa discloses that the convey path for a wafer can be freely selected. While the wafer path in Fukasawa could be curvilinear as alleged by appellant. Curvilinear paths are more complex to program. Straight line paths are common as illustrated in Bacchi figure 6A. Since these paths are common and easier to program it is inherent that such are used in Fukasawa.

The second issue is moot since a rejection under 35 USC 103 over Fukasawa is not part of this appeal.

The third issue is the rejection of claims 1-4, 26<sup>28</sup> and 29<sup>19</sup> under 35 USC 103 over Fukasawa in view of Bacchi. Appellant argues that the arm in Fukasawa is an arm having three degrees of freedom and that in Bacchi is an arm having two degrees of freedom and thus one would not substitute the latter for the former. See page 11, of the Brief filed 12/17/01. The examiner disagrees. The arm in Fukasawa rotates about a shoulder, elbow and wrist. See Fukasawa, fig. 2. The arm in Bacchi also rotates about

where 26-29

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a shoulder, an elbow and wrist. See Bacchi, fig. 6A. The difference in these arms is that the wrist in Fukasawa is independently driven and that in Bacchi is slaved to the elbow. Nonetheless, Bacchi's arm moves wafers along straight lines into and out of cassettes. Note fig 6A in Bacchi wherein on cassette lies along the shoulder axis and one axis is offset from the shoulder. Thus the arm in Bacchi would be mounted in Fukasawa in the same place as Fukasawa's arm, i.e., with the shoulder axis offset from the axes of the process chambers and cassettes. See Fukasawa, figure 2. Moreover, note appellant's specification, page 9, lines 21-25, wherein, appellant acknowledges any arm drive can be used.

Regarding claim 26, note 4a, 4b and 4c in Fukasawa are side by side, as are 4b, 4c and 3b, as are 4c, 3b and 3a. The claim does not require the stations be in a straight line.

Regarding claim 29, note Bacchi fig. 6A discloses moving along a straight line offset from the shoulder and since Fukasawa's shoulder is offset he to must move his wafers along offset axis.

The fourth issue is moot since a rejection under 35 USC 103 over Fukasawa in view of Sawada is not part of this appeal.

The fifth and sixth issues are the rejection of claims 8-16 and ~~28~~ under 35 USC 103 over Bacchi et al in view of Ohata et al or over Ohata et al in view of Bacchi et al, respectively. Appellant argues that there is no teaching of aligning stations on one side of an arm. Ohata figure 1 aligns the three most rightwardly placed stations side by side in an arc on the right side of the transfer 63.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

December 6, 2002

Conferees

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